

# PATENT SPECIFICATION

DRAWINGS ATTACHED

1,111,536



1,111,536

Date of Application and filing Complete  
Specification: 21 October, 1966.

No. 47277/66

Application made in Sweden (No. 14614) on 12 November, 1965.

Complete Specification Published: 1 May, 1968.

© Crown Copyright, 1968.

Index at Acceptance:—F1 P (6G, 7A, 10X); F4 H (G2A, G2J, G2M, G2N, G2S).

Int. Cl.:—F 15 b 21/00.

## COMPLETE SPECIFICATION

### Means for Distributing Flowing Media

WB, STAL REFRIGERATION AKTIEBOLAG, a Swedish company, of Butangsgatan 16, Norrköping, Sweden, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:

The present invention relates to means for the distribution of flowing media.

The invention consists in means for ensuring, when distributing a flowing medium to various conduits, that substantially the same amount of medium flows to the respective conduits, irrespective of changes in pressure in the same, wherein each conduit is provided with a valve comprising a housing in which a piston is displaceable so as to regulate the cross section of a through-flow channel in the housing, for the said medium, the said through-flow channel forming part of the said conduit, one end face of the piston being acting on by the pressure from the medium in the conduit subsequent to the valve considered in the direction of flow, while the opposite end face is acted on by a compression spring and also by a pressure which is alike for all the valves, the cross sectional area of the channel being dependent on the axial position of the piston.

The invention is illustrated in the accompanying drawings in which Fig. 1 shows a valve in longitudinal section and Fig. 2 shows the invention applied to a refrigerating plant.

Referring to the drawings, each valve comprises a cylindrical housing 2 providing a cylinder for a piston 3, which is displaceable in relation to the housing and which regulates a bore 17 of a conduit 4, intended for a flowing medium. One end

face 5 of the piston is acted on by a compression spring 6 and by a pressure from a medium which is supplied to the housing 2 through a conduit 7. The latter pressure is the same for all the valves. The pressure from the flowing medium subsequent to the valve considered in the direction of flow, acts on the opposite end face 8 of the piston, this being made possible by the fact that the space in the housing 2 at the end face 8 communicates with the conduit 4 via a conduit 9. When no load is placed against the piston it abuts an adjustable stop 10. The reference numeral 11 indicates a gasket for the piston 8.

The invention is primarily intended for use in refrigeration plants provided with two or more evaporators and such a plant provided with two evaporators 12, 13 is shown in Fig. 2.

Cooling medium is pumped by a pump 15 from a container 14 through the conduits 4 provided with the valves 1, to the evaporators 12, 13. The evaporators are often required to be capable of working at various vaporizing temperatures (in this case the same thing as different evaporating pressures). The pressure in the container 14 is lower than in any of the evaporators. The pressure (the temperature) in the evaporators is regulated by means of valves 16. Control is effected according to the degree of refrigeration required and is provided for by opening or throttling the valve 16, which may be done manually or automatically by means of a thermostat.

If one of the valves 16 is throttled, the resistance over the relevant evaporating circuit increases which, if the valves according to the invention were not incorporated, would mean that the amount of circulating fluid passing through the said

BEST AVAILABLE COPY

Fig. 2.

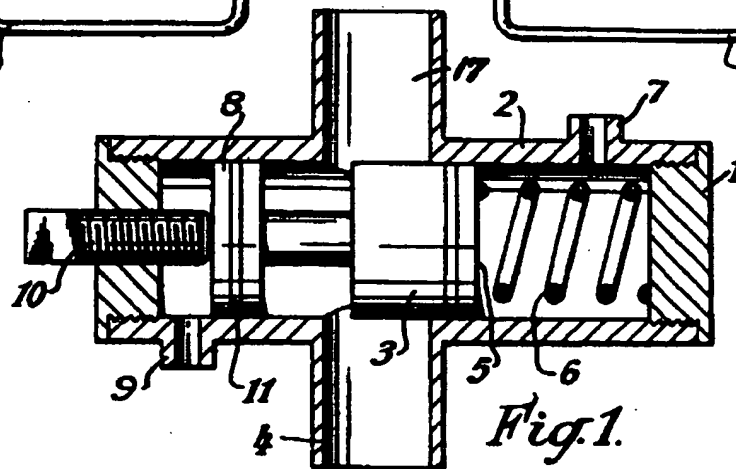
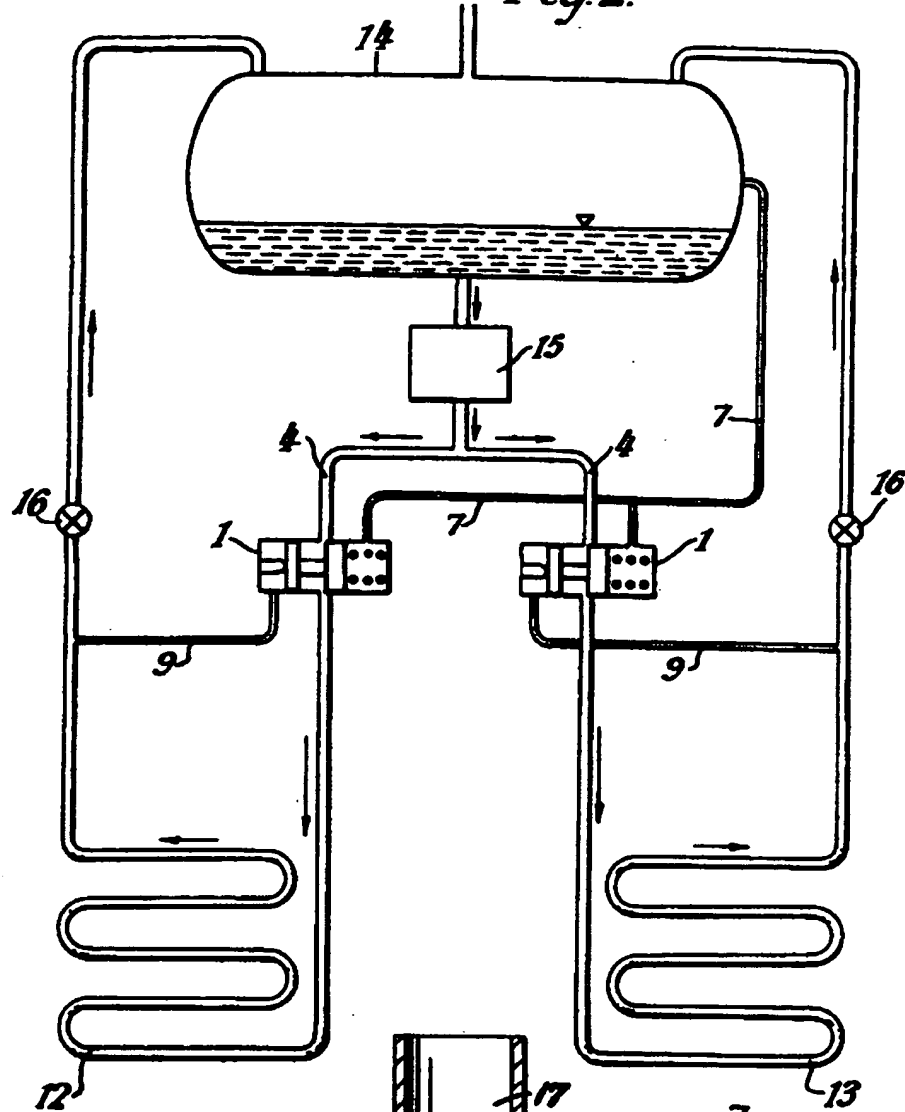


Fig. 1.